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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/659,424      | 09/10/2003  | Yutaka Mizuno        | FY.50656US1A        | 4628             |

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EXAMINER

BASINGER, SHERMAN D

ART UNIT PAPER NUMBER

3617

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                     |               |  |
|------------------------------|---------------------|---------------|--|
| <b>Office Action Summary</b> | Application No.     | Applicant(s)  |  |
|                              | 10/659,424          | MIZUNO ET AL. |  |
|                              | Examiner            | Art Unit      |  |
|                              | Sherman D. Basinger | 3617          |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 4, 8-23, 27 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 24-26, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. Claims 4, 8-23, 27 and 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on October 4, 2004.

2. Applicant's election with traverse of the species of figures 2-5 in the reply filed on October 4, 2004 is acknowledged. The traversal is on the ground(s) of it being well established that:

If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.

M.P.E.P. 803 (emphasis added).

The non-elected Groups are directed to watercraft having steering systems responsive to detected steering forces and the elected Group is also drawn to watercraft having steering systems responsive to detected steering forces. A proper search for art related to the elected Group would necessarily include the classes and subclasses relevant to a search for the non-elected Group. Thus, examination of all the claims would not present a serious burden' on the Examiner. Applicants therefore respectfully request that the present restriction requirement be withdrawn.

This is not found persuasive because examination of all of the different species will present a serious burden on the examiner. Not only would the examiner have to search

for the species using load cells to determine the steering force and increase the engine speed, the examiner would have to search for an embodiment using deflectors on the steering nozzle activated by the force on the load cell, for an embodiment using a rudder activated by forces detected by the load cell, for an embodiment where the propulsion is obtained from an outboard motor as opposed to a jet drive and for all of the different embodiments of the load cell itself. Such a search also requires different subclasses to be search. As for example, subclasses 40-43 of class 440 would have to be additionally searched for the embodiments of figures 6 and 9.

The requirement is still deemed proper and is therefore made FINAL.

#### ***Oath/Declaration***

3. The declaration filed under 37 C.F.R. 1.63 in response to the notice of a missing or unsigned declaration has been received.

#### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "250" has been used to designate both the shock absorbing arrangement (page 22, line 11) and the steering regulator (page 22, line 24). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not

to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

5. The disclosure is objected to because of the following informalities: on page 22, line 26 "252" should be -254-.

Appropriate correction is required.

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: antecedent basis for what is claimed in claim 7 is lacking in the specification.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsuda et al.

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Matsuda et al discloses a watercraft comprising a hull H, a propulsion unit P supported relative to the hull, a steering system configured to influence a direction of travel of the watercraft, the

steering system comprising an operator steering control 10 configured to rotate a steering shaft 10A,

a control system Ec configured to increase an output of the propulsion unit when the steering system is rotated beyond a predetermined position (the distance 33a and 33b moves before contacting protector plate 39), and means for providing a tactile signal to a rider of the watercraft corresponding to the predetermined position 32a, 32b, and additionally comprising means 31a, 31b for controlling a thrust output of the propulsion unit based on a force applied to the steering mechanism after the steering mechanism has been rotated to the predetermined position.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-3, 5, 7, 24-26 and 29-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al in view of Morrison.

Matsuda et al discloses a hull H, a propulsion unit P, a steering system 10 and 10A with an operator steering control configured to rotate a steering shaft 10A between a first

maximum turning position 32a and a second maximum turning position 32b to permit an operator of the watercraft to control a position of the steering system.

Matsuda et al does not disclose a force detection assembly configured to sense a force further applied to the operator steering control after the operator steering control is turned to either of the first and second maximum turning positions, and a control system configured to increase an output of the propulsion unit when the force further applied to the operator steering control exceeds a predetermined threshold.

Matsuda et al discloses the use of proximity sensors 40 and 41 to increase output of the propulsion unit when the operator steering control exceeds a predetermined threshold.

Matsuda et al also discloses in column 10, line 29 that a contact type sensor can be used in place of the proximity sensors.

Morrison et al discloses such a contact sensor in conductive rubber load cell 30. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to use contact sensors similar to 30 of Morrison in place of the proximity sensors used by Matsuda et al. Such sensors would require placement on stops 32a and 32b of Matsuda et al in order for portion 30p to contact them and produce the required load. Such load sensors would enable a force detection assembly configured to sense a force further applied to the operator steering control after the operator steering control is turned to either of the first and second maximum turning positions. The control system configured to increase an output of the propulsion unit when the force further applied to the operator steering control exceeds a predetermined threshold is already provided by Matsuda et al.

Motivation to make such a change is to avoid having to use the cable system in the embodiment of figure 4A of Matsuda et al. A simple and more precise system will result.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to configure the control system of Matsuda et al to increase an output of the propulsion unit in proportion to a magnitude of the force further applied to the operator steering control. Motivation to do so is to make sure the watercraft turns as quickly as the operator desires.

The fixed stops of claim 5 would be 32a and 32b of Matsuda et al, the moveable stop would be 30p of Matsuda et al, the load receiving elements would be the load cells provided to the stops of Matsuda et al in view of Morrison. Each of the load cells would be compressed by 30p of Matsuda et al.

The combination of Matsuda et al and Morrison would also provide a steering assist method for a watercraft comprising determining a force through the load cells further applied to an operator steering control after the operator steering control is turned to a maximum turning position 32a,32b, and increasing a steering force of the watercraft by speeding up the engine when the force further applied to the operator steering control exceeds a predetermined threshold.

That the steering force is increased in proportion to a magnitude of the force would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains in order to provide the degree of turn the operator is demanding.



Matsuda et al discloses that the step of increasing a steering force involves increasing an output of a propulsion unit of the watercraft.

The tactile signal provided to the rider is provided by the stops of Matsuda-32a, 32b.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al and Morrison as applied to claim 5 above, and further in view of Sezaki.

The combination of Matsuda et al and Morrison does not disclose the use of a magnetostrictive detection system. Such systems are known as is shown by Sezaki. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to use as the load cells provided to Matsuda et al in view of Morrison a magnetostrictive detection system with at least one sensor configured to detect a change in a magnetic permeability of either of the first and second load receiving elements.

Motivation to do so is to obtain the benefits a magnetostrictive system provides over the use of load cells similar to those of Morrison.


### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherman D. Basinger whose telephone number is 703-308-1139. The examiner can normally be reached on M-F (6:00-2:30 ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on 703-308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sherman D. Basinger  
Primary Examiner  
Art Unit 3617  
10/25/04

sdb  
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